

**INFORMAL DRAFT (5/25/05)**  
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**(Our Case No. 03-04)**

In the application of: )  
    Rafiq Hussain and Jeffrey Cymerys     )  
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Serial No.: 10/627,516                     ) Examiner: Phuongchi T. Nguyen  
  )  
Filed: July 25, 2003                         ) Group Art Unit: 2833  
  )  
For:    Compression Mount and Zero Insertion Force     )  
      Socket for IC devices                    )

*ATTN: Examiner Phuongchi Nguyen  
Via Fax 571-273-2012*

**Amendment to the Claims**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims**

**Claim 1 (Previously Presented):** A socket system for coupling a pin of an IC (integrated circuit) device to a contact pad of a circuit board, comprising:

    a zif (zero-insertion-force) opening on a socket that asserts substantially zero force when a whole of the pin of the IC device is completely inserted within the zif opening;

    a compression mount lead disposed on the socket, wherein the compression mount lead includes a compression mechanism that compresses the compression mount lead against the contact pad of the circuit board with a compressive force; and

    a mechanism for coupling the pin to the compression mount lead.

Claims 2-6 (Canceled).

**Claim 7 (Currently amended):** A socket system for coupling a pin of an IC (integrated circuit) device to a contact pad of a circuit board, comprising:

a zif (zero-insertion-force) opening on a socket that asserts substantially zero force as a whole of the pin of the IC device is completely inserted therein;

a compression mount lead disposed on the socket, wherein the compression mount lead includes a compression mechanism that compresses the compression mount lead against the contact pad of the circuit board with a compressive force; and

a mechanism for coupling the pin to the compression mount lead;

wherein the socket is mounted onto the circuit board such that the compression mount lead is compressed against the contact pad.

**Claim 8 (Currently Amended):** The socket system of claim [[7]] 1, wherein substantially zero force is asserted on the body of the IC device when the pin is coupled to the contact pad.

**Claim 9 (Currently Amended):** The socket system of claim [[7]] 1, further comprising: a back plate mounted to a back-side of the circuit board when the socket is mounted to a front-side of the circuit board.

**Claim 10 (Currently Amended):** The socket system of claim [[7]] 1, wherein the socket and the circuit board are part of a test system for testing the IC device.

**Claim 11 (Currently Amended):** The socket system of claim [[7]] 1, wherein the socket and the circuit board are parts for an OEM (original equipment manufacturer) machine.

**Claim 12 (Currently amended):** A socket system for coupling a pin of an IC (integrated circuit) device to a contact pad of a circuit board, comprising:

means for asserting substantially zero force on the pin of the IC device as a whole of the pin is completely inserted into a zif (zero-insertion-force) opening on a socket;

means for compressing a compression mount lead against the contact pad of the circuit board with a compressive force; and

means for coupling the pin of the IC device within the zif opening to the compression

mount lead;

wherein the socket is mounted onto the circuit board such that the compression mount lead is compressed against the contact pad.

**Claim 13 (Previously presented):** The socket system of claim 12, further comprising:  
means for minimizing an electrical path length between the IC device and the circuit board.

**Claim 14 (Previously Presented):** The socket system of claim 12, further comprising:  
means for asserting substantially zero force on the body of the IC device when the pin is coupled to the compression mount lead with a force applied on the pin in a direction only perpendicular to a length of the pin.

**Claim 15 (Previously Presented):** A method for coupling a pin of an IC (integrated circuit) device to a contact pad of a circuit board, including the steps of:  
asserting substantially zero force on the pin when a whole of the pin of the IC device is completely inserted within a zif (zero-insertion-force) opening on a socket;  
compressing a compression mount lead on the socket with a compressive force against the contact pad of the circuit board; and  
coupling the pin to the compression mount lead.

**Claims 16-20 (Canceled).**

**Claim 21 (Currently amended):** A method for coupling a pin of an IC (integrated circuit) device to a contact pad of a circuit board, including the steps of:  
asserting substantially zero force on the pin as a whole of the pin of the IC device is completely inserted into a zif (zero-insertion-force) opening on a socket;  
compressing a compression mount lead on the socket with a compressive force against the contact pad of the circuit board;  
coupling the pin to the compression mount lead; and

mounting the socket onto the circuit board such that the compression mount lead is compressed against the contact pad.

**Claim 22 (Currently Amended):** The method of claim [[21]] 15, further including the step of:

asserting substantially zero force on the body of the IC device when the pin is coupled to the contact pad.

**Claim 23 (Currently Amended):** The method of claim [[21]] 15, further including the step of:

mounting a back plate to a back-side of the circuit board when the socket is mounted to a front-side of the circuit board.

**Claim 24 (Currently Amended):** The method of claim [[21]] 15, wherein the socket and the circuit board are part of a test system for testing the IC device.

**Claim 25 (Currently Amended):** The method of claim [[21]] 15, wherein the socket and the circuit board are parts for an OEM (original equipment manufacturer) machine.

**Claim 26 (Currently Amended):** The socket system of claim [[7]] 1, wherein the mechanism for coupling the pin to the compression mount lead applies a force on the pin in a direction that is always perpendicular to a length of the pin.

**Claim 27 (Currently Amended):** The method of claim [[21]] 15, further comprising:  
coupling the pin to the compression mount lead with a force on the pin in a direction that is always perpendicular to a length of the pin.

**Claim 28 (Previously Presented):** The socket system of claim 26, wherein the mechanism for coupling the pin to the compression mount lead comprises:  
forking leads coupled to the compression mount lead and surrounding the pin within the

zif opening; and

an actuation plate and an actuation lever that press the forking leads against the pin with the actuation plate being pressed toward the forking leads in only one lateral direction that is perpendicular to the length of the pin such that the pin is coupled to the compression mount lead via the forking leads.

**Claim 29 (Previously Presented):** The socket system of claim 28, wherein top portions of the forking leads contact a top portion of the pin toward the IC device to minimize an electrical path length between the IC device and the circuit board.

**Claim 30 (Currently Amended):** The socket system of claim [[7]] 1, wherein the compression mount mechanism is comprised of a pogo spring.

**Claim 31 (Currently Amended):** The socket system of claim [[7]] 1, wherein the compression mount lead is comprised of a J-bend lead that is compressed against the contact pad of the circuit board.

**Claim 32 (Previously Presented):** The method of claim 27, further including the step of: pressing forking leads against the pin with an actuation plate that is pressed toward the forking leads in only one lateral direction that is perpendicular to the length of the pin such that the pin is coupled to the compression mount lead via the forking leads.

**Claim 33 (Previously Presented):** The method of claim 32, wherein top portions of the forking leads contact a top portion of the pin toward the IC device to minimize an electrical path length between the IC device and the circuit board.

**Claim 34 (Currently Amended):** The method of claim [[21]] 15, wherein the compression mount lead is comprised of a pogo spring.

**Claim 35 (Currently Amended):** The method of claim [[21]] 15, wherein the